Remarks/Arguments:

By this Amendment, Applicant has amended claims 1-8. Claims 1-8 are pending.

Claim Rejections Under § 103

Claims 1-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Trier. By this Amendment, Applicant respectfully traverses the Section 103(a) rejection.

Claims 1-8 are independent claims. Turning first to independent claim 3 (since it is discussed first in the Office Action), it is directed to a microwave oscillator for inducing parallel feedback from a drain to a gate of a field effect transistor. The microwave oscillator of claim 3 includes the following features:

- a first microstrip line with a released and coupled to the gate terminal,
- a second microstrip line with a released end coupled to the drain terminal,
- a dielectric resonator electromagnectically coupled to the first microstrip line and the second microstip line,
- **a high impedance line** for bias supply to the gate terminal **directly coupled to the first microstrip line** at a position where a distance from the released end on the first microstrip line is a point closest to a center of the dielectric resonator at $\lambda g1/4$,
- wherein $\lambda g1$ is a guide wavelength of the first microstrip line at an oscillation frequency of the microwave oscillator.

It is Applicant's contention that the microwave oscillator of claim 1 is patentably distinguished from the Trier Patent at least based on the requirement that the high impedance line, for bias supply to the gate terminal, is directly coupled to the first microstrip line at a position where a distance from the released end on the microstrip line to a point closest to a

center of the dielectric resonator is λg1/4. In other words, the direct coupling of the high impedance line to the first microstrip line is neither taught nor suggested in the Trier Patent.

The Office Action states the position that the impedance adapter 24 in the Trier Patent is the same as the high impedance line defined in Applicant's claimed invention. But the impedance adapter 24 is not coupled to microstrip line 16 in the Trier Patent, as defined in Applicant's claimed invention.

More specifically, the Office Action at page 3 states the following with respect to the impedance line 24:

> (d) a high impedance line 24 for bias supply to said gate terminal coupled at a position where a distance from the released end on said first microstrip line to a point closest to a center of said dielectric resistor is d1 + R, where R is the radius of the dielectric resister (see fig. 1).

Applicant respectfully disagrees with the position noted above for several reasons.

First, block 24 in Fig. 1 of the Trier Patent is regarded in the Office Action as a high impedance line, but block 24 is an impedance matching circuit for matching a gate impedance of FET 10 within an impedance of microstrip line 16. See column 2, lines 41-43, of the Trier Patent. If block 24 is a high impedance line, it would not have been directly connected with a gate of FET 10. See Fig. 1 of the Trier Patent. Thus, a high impedance line as defined in Applicant's claimed invention is not described in the Trier Patent.

Second, even if block 24 were a high impedance line, the above defined location where the high impedance line 24 is coupled to microstrip line 16 is inconsistent to Applicant's claimed invention. The high impedance line 24 is coupled with microstrip line 16 at end (B), as shown in Fig. A of Attachment A.

To the contrary, the defined location recited in claim 3, if shown in Trier's Fig. 1 (Fig. A of Attachment A), corresponds to position (Q) where the distance from end (A) of microstrip

line 16 is $\lambda/4$. Further, in Trier's Patent, point (P) located closest to a center of dielectric resonator 12 is also located the same distance ($=\lambda/4$) apart from end (A) (see Fig. A of Attachment A). These distances in Applicant's invention are shown as AQ (=X) and AP (=L1) in Fig. B of Attachment A.

In addition, the microstrip lines of the Tier Patent are terminated differently from Applicant's invention. As shown in Fig. A of Attachment A, microstrip lines 16 and 14 are terminated by resistors 29 and 20, respectively, while microstrip lines 4a and 4b in Fig. B are opened-circuited at their terminals. This difference comes from the oscillation mode between Trier and Applicant's invention, that is, $WGE_{n,0,0}$ mode for Trier, and $TE_{0,1,\delta}$ for Applicant's invention. See column 2, lines 56-61 of the Trier Patent.

Thus, for the reasons stated above, claim 3 is patentably distinguished from the Trier Patent.

Applicant has amended claims 1, 2, and 4-8 in a similar manner as claim 3. Thus all pending claims are patentably distinguished from the Trier Patent. Applicant therefore requests that the Section 103(a) rejection directed to claims 1-4 be withdrawn.

Claims 5-8 stand rejected under 35 USC § 103(a) as being unpatentable over Trier in view of Guo. By this Amendment, Applicant respectfully traverses this Section 103(a) rejection.

Independent claims 5-8 have been amended in a similar fashion as claim 3, and are therefore patentably distinguished from the Trier Patent. It is Applicant's contention that the Guo Patent does not rectify the deficiencies of the Trier Patent as heretofore discussed.

The Guo Patent relates in general to a radio frequency converter which includes a plurality of signal paths for simultaneously processing two RF signals in the same band, but with different polarizations. More specifically, the Guo Patent has been cited with respect to the "low-noise converter incorporated in a microwave receiving antenna". But the disclosure of the Guo Patent does <u>not</u> teach or consider the location of the high impedance line relative to its direct coupling to the first microstrip line as defined in claims 5-8. Lacking this feature

of Applicant's claimed invention, the combination of the Trier and Guo Patents do not meet the invention defined in claims 5-8. Applicant therefore requests that the Section 103(a) rejection directed to claims 5-8 be withdrawn.

In view of the forgoing remarks and amendments, Applicant respectfully submits that claims 1-8 are in condition for allowance. Reconsideration and allowance of all pending claims are respectfully requested.

Respectfully submitted,

Daniel N. Calder

Daniel N. Calder, Reg. No. 27,424
Attorney for Applicant

DNC/dlm/dmw

Enclosure: Attachment A

Dated: June 18, 2004

P.O. Box 980
Valley Forge, PA 19482
(610) 407-0700

The Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. **18-0350** of any fees associated with this communication.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on June 18, 2004.

Donna M. Wellings

Donna M. Wellings

DLM_I:\MAT\8121US\AMEND01.DOC